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The Importance of Foreign Trade in Copper and Other Metals

By FELIX EDGAR WORMSER

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OF the five metal industries producing copper, lead, zinc, gold and silver, foreign trade is normally of direct importance to only two—copper and silver. The lead, zinc and gold industries function quite independently of export stimulus. Foreign commerce undoubtedly plays a most important rôle in the production and marketing of agricultural staples such as wheat and cotton, but the importance of foreign trade to the copper and silver industries is scarcely less important. The extent of the effect of this factor on a domestic metal industry may be judged by the serious depression and loss which the post-war dullness in export trade caused the copper industry.

There are three chief differences between agricultural and mineral commodities that influence their international movements. Farm products are of a perishable nature, whereas the metals are of a permanent nature. Furthermore, food and clothing are of much greater importance to life. Each year there is poured upon the world a supply of new metals which augment existing supplies, rendering greater the possibility of using available quantities of scrap metal and transforming it into essential shapes. These facts do not apply to agricultural products, the perishable nature of which precludes use after any but a measurable period. If a nation be faced with the alternative of choosing between the importation of foodstuffs and of metals, the former would undoubtedly be selected. Moreover, though a country may modify its agricultural activities it can not change its mineral resources, and so must seek

its supply of metals from existing deposits, whether domestic or foreign.

Although the statement has been made that foreign trade is important to only two of the five metals under discussion, this should perhaps be qualified through a recognition of the fact that the great war seriously altered the foreign and domestic demand for the metals and that the present period of economic readjustment has largely distorted the normal movements of some of them. Consequently, statistical records made in the first few post-war years, 1919, 1920, 1921, furnish an unreliable criterion of future developments.

GOLD MOVEMENTS NORMALLY DO NOT AFFECT GOLD PRICES

Considering first the importance of exportation of gold upon the gold production of the country, the conclusion may be drawn that gold, being dependent upon financial requirements, moves chiefly in response to the settlement of adverse trade balances with gold-standard countries, and that the use of gold in the arts, or commercially, is not influential in affecting its price. Silver performs a duty similar to that of gold in discharging indebtedness to silver-standard countries or countries on a gold-exchange standard, such as India. The movements of both of these precious metals are now mainly subservient to governmental regulations, though normally free and according to banking requirements.

Restrictions on the external movements of gold are more prevalent than for silver, and there is small likelihood of the removal of these gold embargoes in the near future, as nations cling tena-

ciously to their gold reserves. With the exception of the United States, many countries have prohibited the outward movements of gold, and the export of silver can take place only under government license. The United States permits the free exportation of silver, but through a legislative enactment, the Pittman Act, the Treasury Department is required to purchase up to 207,000,000 ounces of silver mined and refined in the United States at one dollar per ounce, an amount of silver that was sold for the same price during the war. This has virtually prevented exports of silver, as the foreign market is much below one dollar. All of the domestic production for the next four years will probably be directed into the vaults of the Treasury, unless, of course, an unlikely rise of silver in the world market to over one dollar per ounce should occur.

Thus, present export trade in gold and silver is unimportant to these respective metal-producing industries. Gold always commands \$20.67 per ounce regardless of export trade, and domestic silver will find its way into the vaults of the Treasury for several years to come unless the Pittman Act should be repealed. Normally about 50 per cent of the domestic silver production is exported—mainly to Asiatic countries—and there is hardly an industry more dependent upon export conditions. Silver's phenomenal rise in 1918 and 1919 was due almost wholly to the demand for the metal for the settlement of commercial balances with India and China.

Export trade is of varying importance for the other three metals in the group, lead, zinc and copper. During the war, foreign demand caused extraordinarily high prices and greatly stimulated production. Normally, however, export trade is of much importance to only one of these metallic commod-

ties, copper. The situation in each metal will be considered separately.

FUTURE EXPORTS OF DOMESTIC LEAD DOUBTFUL

Although the United States produces over one-third of the world's lead, and about as much as its two chief competitors combined, exports of lead made from domestic ores from the United States for the four years prior to the war were negligible. However, considerable quantities of lead from foreign ore were exported, the production from foreign ore and imports almost balancing. Most of the imported lead comes from Mexico to be refined in this country, and if not entered for consumption may be exported—the familiar principle of the "drawback," or a freedom from duty payment, applying. The following table brings out the pre-war position of the lead industry, its record during the stress of war, and the results of two years of readjustment, 1919 and 1920.

These figures do not take into consideration the export of manufactures, ammunition and articles in which the lead content is an appreciable item. However, the domestic trade felt the indirect effect of the lead consumption in other industries during the war.

There is little justification for hope of a change in the export situation to a pre-war basis. In 1920, importation of cheap pig lead was threatened time and again and foreign pig lead in large quantities actually did come into the country (27,300 tons in ten months). The difficulty which the United States must overcome in competing in the well-established international lead market, coupled with exchange difficulties, effectually prevents a profitable development of the outward movements of lead. Domestic production and consumption are expected to balance as before the war. The American industry, emphasizing its inability to

LEAD PRODUCTION AND MOVEMENTS¹

In Short Tons

Year	Production		Imported Lead (Ore, Bullion, Re-refined)	Exports	
	From Domestic Ores	From Foreign Ores and Base Bullion		From Domestic Ores	From Foreign Ores ²
1910 to 1913 inc.	411,700	82,200	84,800	.....	70,300
1914.....	534,500	29,300	28,300	58,700	21,550
1915.....	537,000	43,000	51,400	88,300	38,600
1916.....	596,200	18,900	35,300	100,500	9,900
1917.....	579,400	62,300	78,250	53,700	37,700
1918.....	556,900	100,300	98,600	41,800	59,400
1919.....	427,800	57,800	71,400	10,500	40,900
1920.....	471,700	54,000	91,200	3,000	22,500

¹ This and other statistical information has been taken from the records of the *United States Geological Survey*, Department of Commerce, *Engineering and Mining Journal*, and the *Frankfurter Metallgesellschaft*.

² Excludes lead in manufactures exported with benefit of drawback amounting to about 10,500 tons annually prior to the war; 5,000 tons annually during the war, and about 2,000 tons in 1919.

compete in other markets, is protected under the Underwood tariff by a 25 per cent duty upon the metal in various semi-finished and finished forms and three-fourths of a cent per pound on lead contained in imported ores. This is greater protection than that enjoyed by the copper and zinc industries; in fact, greater than that accorded any other important metal. Australia, Spain, Germany and Mexico furnish strong competition for export trade in lead, and have been able to produce the metal at a cost equal to if not lower than that in the United States. Now they, with the exception of Mexico, can also benefit by exchange rates.

SITUATION IN ZINC EXPORTS NOT ENCOURAGING

The zinc trade of the United States closely parallels that of lead. In pre-war years exports of zinc from domestic

ores were small; from 1910 to 1913 inclusive they averaged about 6,300 tons annually, or little over 2 per cent of the domestic production, as the following table illustrates.

The war demands for zinc, however, were so insistent upon a large supply of this useful metal that domestic exports increased to 163,100 tons in 1916 and to 153,800 tons in 1917, and although there was a sharp drop to 80,200 tons in 1918, a rise took place the following year to 129,500 tons, chiefly on account of the idleness of one of the world's great zinc producers in Australia. The record for 1920 appears well in the aggregate, 86,000 tons, but when it is considered that during the last five months of 1920 exports had tapered off to a rate of about 500 tons monthly, it is likely that a reversion to a pre-war scale will take place quickly.

As in the lead industry, much zinc

ZINC PRODUCTION AND MOVEMENTS

In Short Tons

Year	Productions		Imports ¹ (Blocks, Pigs and Sheets)	Exports	
	From Domestic Ores	From Foreign Ores		From Domestic Ores	From Foreign Ores ²
1910 to 1913 inc.	296,300	14,000	4,900	6,300	11,100
1914.....	343,400	9,600	900	64,800	9,700
1915.....	458,100	31,400	900	118,600	12,800
1916.....	564,300	104,000	700	163,100	43,200
1917.....	584,600	85,000	300	153,800	66,200
1918.....	492,400	25,500	35	80,200	26,400
1919.....	452,300	13,500	70	129,500	16,800
1920.....	449,000	14,000	13	86,000	28,500

¹ There were also imports of zinc in ore, which is sufficiently accounted for under production from foreign ores.

² Includes zinc in manufactures exported with benefit of drawback amounting to about 4,100 tons annually prior to the war, 3,900 tons annually during the war and 4,500 tons in 1919.

material is imported to be manufactured and later exported, the net result of the operation being to avoid the payment of duty. Similarly, the domestic zinc consumption is normally a little below domestic production, and the industry is quite flexible and able to meet sudden demands put upon it. The zinc trade in the United States enjoyed unprecedented prosperity during the war, when remarkably high prices were reached and unusually large exports were made, but it is doubtful if a considerable proportion of this foreign trade can be held and highly probable that the condition of the industry will revert closely to the pre-war status, not only because of the difficulties that beset export trade in general—chiefly financial considerations—but owing to the lower costs of other zinc-producing countries.

Australia, Germany and Belgium are rapidly regaining their strength, eager to furnish competition in international

markets. The paralysis of the Australian zinc industry, due to prolonged labor troubles, has passed, and already this strong competitor is influencing the international market. Germany, Belgium, Great Britain, France and Australia have well-established zinc-smelting industries, and they will do everything to facilitate a return to former conditions. The zinc trade in the United States has a slightly better opportunity than the lead trade to expand its exports, judging from past records, but it faces a difficult problem—one that can be solved only as the general solution to the problem of export trade is found and domestic costs are lowered. Competition was at a minimum during the war, and its full force has not been felt by the American industry for many years. The tariff on zinc is 15 per cent on ores, slabs, blocks and pigs—less protection than the lead industry enjoys, and yet not sufficient to prevent the frequent talk

of and actual importation of zinc for consumption in the United States.

Germany, by the terms of the peace treaty and the probable loss of Silesian deposits and smelting plants, will not be able to hold second place in the zinc industry. The supply of German ore will be cut down two-thirds, and considering that Australian concentrates formerly shipped to Germany are being diverted elsewhere, the most logical source of importation of concentrates is the United States or Mexico. At all events, the best opportunity facing the American zinc export trade lies in supplying the Central Powers, but what measure of success will reward attempts to enter this field—Germany was formerly the second largest consumer of zinc in the world—will depend almost entirely on the attitude that the Germans adopt to the restoration of their industry and the facilities granted that almost bankrupt country by financial interests.

No concerted attempt is being made by the zinc trade to attack the problem systematically through an export association similar to that of the copper producers, and the industry is not any too well organized to know how it

stands with other countries, particularly in respect to costs and the technology of production. It has been frequently pointed out that there is an unhealthy secretiveness in the industry and an unwillingness individually to coöperate in lowering costs. Such an attitude will not help the industry in expanding its foreign trade, thereby benefiting itself and country. Perhaps also, because no organized attempt has been made by the American zinc trade to develop foreign markets, export trade in normal years was relatively unimportant. The obstacles to foreign zinc trade loom large, but would undoubtedly repay study in the endeavor to surmount them.

EXPORT TRADE OF GREAT IMPORTANCE TO THE COPPER INDUSTRY

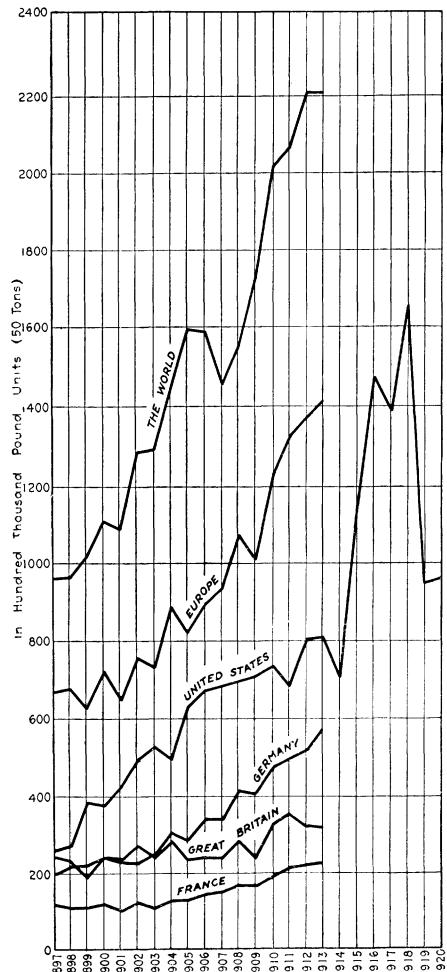
There remains for discussion one other metal of the group, the most important from the standpoint of production, utility and export trade of all of the non-ferrous metals—copper. Its position has grown stronger and more important with the development of the world's electrical industry, concurrently with the giant strides that have been made in the progress of using

COPPER PRODUCTION AND MOVEMENTS

In Short Tons

Year	Smelter Production from Domestic Ores	Imports	Exports
1910 to 1913 inc.....	580,500	187,300	399,500
1914.....	575,000	153,000	420,000
1915.....	694,000	158,000	341,000
1916.....	964,000	231,000	392,000
1917.....	943,000	278,000	563,000
1918.....	954,500	288,000	372,000
1919.....	655,500	214,500	258,000
1920.....	617,500	244,000	305,000

more and more electrical power each year as shown by the chart on page 70. The set of curves on page 71 illustrates graphically the great in-



Total Copper Consumption by the World, Europe, Germany, Great Britain and France, 1897-1913 and by the United States, 1897-1920

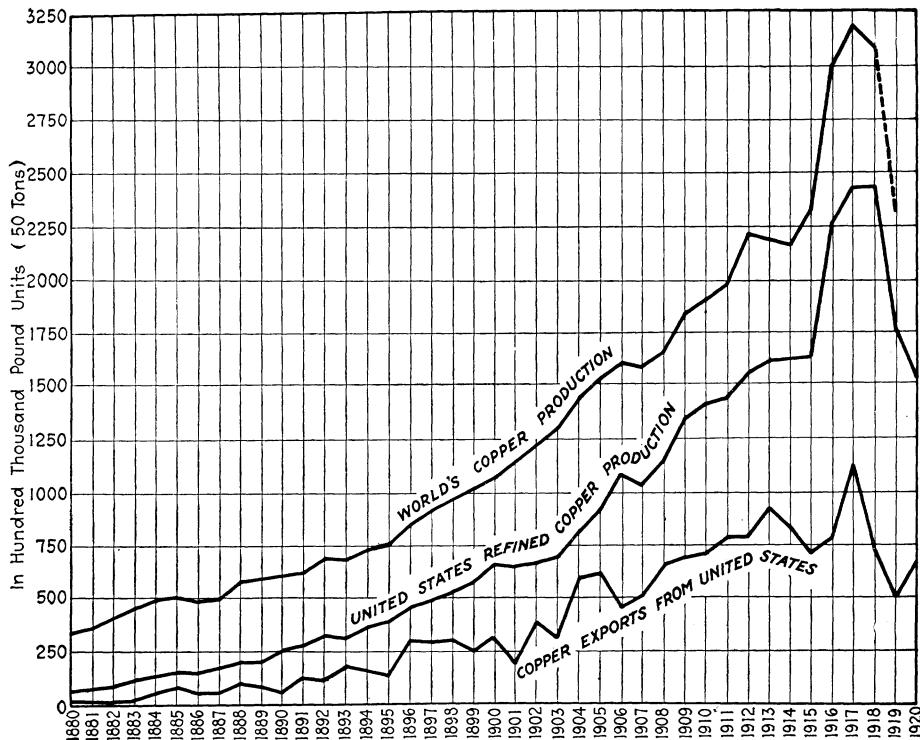
crease in the world's production of copper during the twentieth century. Production has almost trebled the pre-war rate during the war. The United States has had a remarkably rapid growth in copper production, as the curve indicates, and during the five

years before the war accounted for well over 60 per cent of the world's refined-copper production. This, however, includes the imports of crude copper from Canada, Mexico and South American countries, shipped to this country to be refined. However, the copper production of the United States itself has for many years been the largest in the world, and there is little probability of this leadership being lost. Compared with the relatively stationary production of other countries, the growth of United States copper production has been phenomenal.

It is striking that the nation's agricultural and mineral wealth in each of four important commodities, corn, cotton, petroleum and copper, is greater than that of any other country and that in each product foreign trade developed through the superabundance of our own natural resources and an effectiveness of labor which resulted in trade with other countries willing and anxious to consume this American produce.

As copper is an indispensable metal in modern life, our export trade in that metal has been a natural development of the effort of other countries to procure an adequate supply. With the vast resources available, it has been easy for the American copper industry to respond to any demand put upon it, whether a normal yearly growth in consumption or an acute war appeal. Furthermore, the heavy investment of American capital in South American copper mines, and the concentration of the refining of South American, Canadian and Mexican copper on the Atlantic seaboard, have helped to bring the world's copper market into the hands of the United States producers, whereas during the greater part of the nineteenth century the world's copper market was controlled by Great Britain.

The set of curves on page 71 indicates the world's production of refined cop-



Production of Refined Copper in the World and in the United States and the Exports of Refined Copper from the United States, 1880-1920

per and the production of refined copper and the copper exports of the United States. In pre-war years, as the curves show, well over half the refined copper produced in the United States was exported. In 1917, an important war year in which every effort was being made to speed production, the ratio of exports was lower—about 45 per cent; in 1919, 29.1, and in 1920, about 34 per cent. The decline was sufficiently pronounced to disturb the industry seriously, as the domestic consumption was in no condition to take up production on a war scale. This is well illustrated by the troubles of the largest copper mines in the United States—the “porphyries”—which are essentially large-scale producers and have lowest costs when producing at maximum capacity. The

success of their operation hinges largely on a tremendous daily output of ore, so that a difficult problem is presented in obtaining the proper flexibility of production required to meet conditions.

Immediately after the armistice, November 11, 1918, the copper producers were advised by the Government to maintain production at the war rate on the ground that an armistice did not imply a complete and ultimate cessation of hostilities. Acting upon this advice, production was maintained at 100 per cent of capacity to the end of the year—a short period after the Government had relinquished its interest in the copper industry's activities. It was virtually impossible to curtail output as quickly as might have been desired. A lessening of demand ensued, which, coupled with the reduc-

tion of the excess ore produced at the end of 1918—about four months' work—soon supplied the industry with heavy surplus stocks that have consistently plagued the producers and await a foreign trade revival to be eliminated.

THE WORK OF THE COPPER EXPORT ASSOCIATION

The pre-war method of exporting copper depended primarily on individual transactions. The largest copper producers usually had representatives in foreign countries whose duty it was to take care of their foreign business. Similarly, there were agents in this country of foreign consumers who looked after their European clients' copper requirements. Competition in foreign trade was keen. The war and Federal legislation have changed all this. Soon after the passage of the Webb-Pomerene Act in 1918, permitting combinations of enterprises to engage collectively in foreign trade, the copper producers of the United States, realizing the advantages accruing to them under this legislation, took steps to organize a Copper Export Association. This corporation has functioned since December, 1918, and has produced the machinery necessary to facilitate export trade in any volume. Practically all the copper producers in the United States are members. Together they account for about 80 to 85 per cent of production. Each member of the Copper Export Association participates in the business of the corporation on a production basis; that is, the larger a member company's production the greater the share of the association's business apportioned to it.

The Copper Export Association has had to confine its operations chiefly to the Allied countries, where financial arrangements could be more readily concluded. Political considerations prevented entering the German field

with the credit arrangements possible for France, England, Italy and Japan. However, the association has sold copper to Germany on a cash basis.

The financial arrangements cover an extension of credit to European consumers for a period of two years. Each consumer has a definite credit extended to him, the amount depending on individual circumstances and the financial standing of the purchaser. The use of bank acceptances is resorted to in actually executing sales, the association drawing on buyers, the commercial paper payable three months after date of acceptance. In addition to the financial and commercial standing of the copper purchaser acting as a warrant for payment, arrangements have been consummated whereby a group of banks of the highest standing guarantees the payment of the drafts at maturity. The privilege of renewing the drafts for one or two additional periods of three months each is also agreed upon, so that ultimate payment may be deferred for nine months. The Copper Export Association participates actively in the foreign market and makes its prices conform to market conditions.

With its foreign representatives, it keeps closely in touch with the requirements of European purchasers, and through the medium of copper stocks in warehouses at important seaports such as Liverpool, Rotterdam, Bordeaux, Hamburg, Bremen, Havre and Antwerp is enabled to fill each order promptly. The association is also enabled to supply each consumer with the particular brand of copper he may desire. Although there is practically no substantial difference between the various electrolytic copper brands shipped abroad, manufacturers frequently express a preference for one particular variety. No attempt is made to increase export sales other than through

the personal contact established by foreign representatives. An important feature of the method of handling export trade through an export association is that individual competition of copper producers—that are members of the association—in a foreign market disappears and only in the home market is competition keen. As with a well-balanced team, the personal welfare of the individual is subordinated to the common good.

Although theoretically one of the compelling arguments in favor of export combinations is the reduction in overhead costs and the elimination of a duplication of effort, the point has not been attained where this result has been fully felt, owing mainly to the decline in the volume of export trade. Maximum efficiency in an export combination is attained only when the volume of exports is on the scale for which the association was organized.

One circumstance which has affected the Copper Export Association's volume of trade has been the decline in the exchanges. After a contract between European consumer and the association has been entered into, and payment arranged according to the credit terms outlined, settlement must be made in United States dollars. When exchange is increasing, the foreign copper purchaser can advantageously discharge his obligation at a future date, but when exchange declines a larger payment in pounds sterling, or francs, as may be, is exacted. The purchaser takes sole responsibility for the fluctuations in exchange, and hence a certain amount of speculation is introduced in purchases.

Some criticism of the Copper Export Association has been made abroad on the ground that it is attempting to control prices arbitrarily and the conclusion reached that its attempt is doomed to failure. Such a criticism neglects

to take into consideration the fact that copper can be obtained in the United States in rather large quantities outside of the association and that European purchasers do not have to avail themselves of the facilities offered by the Copper Export Association. Criticisms of the sales policy adopted have also been made, but as in such matters a wide divergence of opinion is natural, this criticism is not of material force. Thus, American producers were criticized for holding their copper at 19 cents per pound in 1920 without making sales and then subsequently having to unload large quantities on the market at 13 and 14 cents. In explanation it may be said that producers were animated largely by the impression that a decrease in price would not result in pronounced increase in sales. Furthermore, the heavy sales of copper made earlier in the year were sufficient in volume to take care of practically the entire year's business, so that there was no incentive later on to enter actively into the market only to slash prices. There were also the considerations due to purchasers of copper at the higher prices and the protection of their interests which fair trading demanded. As later events indicated, this policy was essentially sound. It is unfortunate that ill-advised criticism should have been directed against the association. To function properly, the Copper Export Association requires the good will of foreign consumers, and concessions must be made by both parties if, as in all trading, a mutually satisfactory bargain is to be struck.

AN ANALYSIS OF COPPER EXPORTS

In analyzing the normal foreign trade in copper and the more important copper manufactures, Europe is found to be the largest consumer, taking about 95 per cent of export shipments. Germany and The Neth-

erlands were ostensibly the best customers, together accounting for over one-half of the European purchases of American copper. Sales to France, Italy, England, Austria-Hungary and Denmark were also important, and although individually not comparable to the volume of Germany's purchases, materially swelled the aggregate amount. The following table is intended to exhibit the heavy European copper purchases from United States producers:

The Netherlands, Denmark, Belgium, Scandinavian countries and possibly Austria-Hungary should be considered. A warrantable estimate of pre-war American copper imports into Germany would be 500,000,000 to 550,000,000 pounds per annum; yet in 1920 only about 120,000,000 pounds of copper were purchased for that country. The logical effect of this drop in sales to a copper industry tuned to the greater rate of purchases is apparent. A large proportion of German copper

EXPORTS OF METALLIC COPPER FROM THE UNITED STATES IN POUNDS

(A) Exports in Per Cent of United States Production

Year	To England	(A)	To France	(A)	To Germany	(A)
1910	98,000,000	6.8	116,000,000	8.1	176,000,000	12.2
1911	108,000,000	7.5	135,000,000	9.4	190,000,000	13.3
1912	95,000,000	6.1	131,000,000	8.4	252,000,000	16.2
1913	34,000,000	2.1	160,000,000	9.9	307,000,000	19.0
1914	198,000,000	12.9	150,000,000	9.8	177,000,000	11.5
1915	201,000,000	12.3	236,000,000	14.5	.....	....
1916	173,000,000	7.7	318,000,000	14.1	.....	....
1917	373,000,000	15.3	366,000,000	15.1	.....	....
1918	252,000,000	10.4	265,000,000	10.9	.....	....
1919	106,000,000	5.9	89,000,000	5.1	.....	....
1920	101,500,000	6.5	120,000,000	7.6	85,000,000	5.4
Year	To Nether- lands	(A)	To Italy	(A)	Total Exports	(A)
1910	222,000,000	15.2	34,000,000	2.4	708,000,000	48.4
1911	231,000,000	16.0	38,000,000	2.7	787,000,000	55.0
1912	153,000,000	9.7	47,000,000	3.0	775,000,000	49.5
1913	179,000,000	11.1	41,000,000	2.6	926,000,000	57.4
1914	126,000,000	8.2	67,000,000	4.4	840,000,000	54.8
1915	4,000,000	.2	107,000,000	6.6	682,000,000	41.8
1916	.....	....	98,000,000	4.3	784,000,000	34.8
1917	.....	....	153,000,000	6.3	1,126,000,000	46.5
1918	.....	....	122,000,000	5.0	744,000,000	30.7
1919	.....	....	65,000,000	3.7	516,000,000	29.3
1920	34,000,000	2.2	770,000	0.5	610,000,000	37.8

In pre-war years Austria-Hungary imported about 35,000,000 lb. United States copper, and Belgium 7,000,000 lb., annually.

It is now generally conceded that the heavy pre-war purchases of The Netherlands were for German consumption, seaports in Holland merely acting as points of entry to the Continent. Denmark's copper imports were made with a similar purpose. Thus, to obtain the true significance of German copper importations, those of

consumption was for the munition industry, but the basis of the large copper imports was predicated on a highly developed electrical industry which combed the world's markets for its export electrical trade and used great amounts of raw copper in electrical manufactures. Germany is at the heart of the copper export situation,

and any real stability to the export market is not to be expected until conditions in that country permit buying copper at approximately the pre-war rate.

The economic influences which depress copper trade with other nations (particularly fluctuating exchange rates) are stressed to a much greater degree in trade with Germany. Political and industrial uncertainties prohibit stabilizing the copper export trade with Germany to the same extent as with other European countries. The fixing of the indemnity, and the proper functioning of German industrial life under definite reparations, will do much to bring Germany back to pre-war importance in the copper trade.

Although the prosperity of the American copper producers is dependent largely upon the foreign demand for the metal, and the industry is bound to be depressed by an absence of such a demand in customary volume, the future outlook for copper is exceptionally bright. The world is living in an electrical age, and expansion in the use of electrical apparatus of all kinds, the utilization of the vast water-power resources in the United States and abroad, and a consequent decrease in dependence upon coal as a fuel will do much to further the demand for this cheap and efficient conductor of electricity. Some competition there will be from aluminum, another excellent conductor, but the use of aluminum is feasible only when the price of that metal is less than twice the price of copper. Hand in hand with the development of electrical power must proceed the necessary financing of various hydro-electric and electrification projects, to which liberal financial assistance must be given by nations in a position to relieve the acute fiscal embarrassments of European countries. Foreign trade in copper

thus depends upon events that must progress together. It is folly to take a disinterested attitude of detachment from the financial affairs of Europe.

The export trade generally in all non-ferrous metals produced in America, and in copper particularly, does not depend upon some advantage gained during the war, or on the financial and industrial helplessness of other nations, but upon the bountiful mineral resources of the United States, the efficient way they are mined and reduced, and the leadership of the United States in the world's production of most of these metals. Foreign trade has been but a logical outcome of the inherent advantage that our abundant natural resources have given us.

The problem of the copper industry is not one in which the loss of export trade, in part or in whole, is at stake, but, rather, how the present obstacles that hinder foreign trade may be overcome quickly. Exchange difficulties are the root of the trouble. Some manufacturers have circumvented the disadvantage of present exchange relationships by resorting to direct barter. Trading American-made steam locomotives for Roumanian oil was an example. It is also understood that shipments of copper were made to Germany to be fashioned into exportable manufactures and then turned back into the hands of the shipper financing the operation. Such methods as these are but temporary expedients that will be gradually subordinated to the more convenient arrangements existing prior to the war.

CONCLUSION

As before stated, foreign trade is normally directly important in only two of the five metals under discussion—copper and silver; for the others—lead, zinc, and gold—export trade is not a directly important factor. This

does not imply that it is not within the reach of the producers of these metals. It is to the credit of the copper producers that they have presented an almost unified front to the problem of export trade and have an organization authorized by recent legislation to solve it. The copper producers have been quick to see their predicament and to take the best procedure to remedy it.

The lead and zinc producers have already become timorous and are beginning to clamor for a higher protective tariff. This does not augur well for the ability of either of these industries to enter the international market. Raising the tariff on imports will probably provoke retaliatory measures on the part of Europe and make it more difficult to compete. The grad-

ual awakening of the zinc industry, the internal coöperation of the domestic zinc producers through the medium of their own organization, the American Zinc Institute, in an effort to compare and lower costs, will do much to help the industry in both local and foreign markets. But underneath all efforts to establish export trade stand the general economic conditions which hamper its development.

For the non-ferrous metal trade the lack of exports at any time will not be a calamity, for, viewed from the standpoint of conservation of America's mineral resources, our irreplaceable deposits of copper, lead, zinc and other metals will be conserved for posterity. In the meantime domestic wants can be adequately supplied.

Mexico as a Field for American Trade Expansion

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IT seems very probable that Mexico has emerged from the long period of social and political readjustment through which it has been passing since the Diaz régime. The decade since the dictatorship has brought many changes that on the whole are favorable. Mining, manufacturing and commerce have increased; the peons have been given greater liberty and opportunity; and latent strengths and weaknesses of the democracy have been brought to light. Undoubtedly there is now a more democratic Mexico, a more practical Mexico and a Mexico of more immediate potential power than at the beginning of the revolutionary difficulties.

It would appear that the elements of continued discord have finally been pacified and, what is most important, voluntarily so. Observers state that all are thoroughly weary of disorder and turmoil and are anxious to follow capable leadership. Every indication is to the effect that such leadership has been found. The period of the provisional presidency has passed without unfavorable developments. The newly inaugurated president is a person of strong personality and executive ability and appears to have the confidence of the republic and of foreign nations. Accordingly, there seems little reason to doubt that Mexico is now entering upon a period of enjoy-